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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,907	10/20/2005	Hanan Gothait	P-5313-US	9065
49443 7590 07/09/2008 Pearl Cohen Zedek Latzer, LLP 1500 Broadway 12th Floor New York, NY 10036				
EXAMINER				
NGUYEN, LAM S				
ART UNIT		PAPER NUMBER		
2853				
NOTIFICATION DATE		DELIVERY MODE		
07/09/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PUSDKT@PCZLAW.COM

Office Action Summary

Application No.

10/527,907

Applicant(s)

GOTHAIT ET AL.

Examiner

LAM S. NGUYEN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 68-87 is/are pending in the application.
- 4a) Of the above claim(s) 76-78 and 87 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 68-75 and 79-86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
- Paper No(s)/Mail Date 3/16/06, 3/14/05
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

In response to the restriction requirement, the applicant elected claims 68-75 and 79-86 for further examination. As a result, claims 76-78 and 87 are withdrawn from consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 74-75, 81, 84 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase “and/or” renders the claim indefinite because the claim does not clearly set forth the metes and bounds of the claimed invention, thereby rendering the scope of the claim unascertainable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 68 and 79 are rejected under 35 U.S.C. 102(e) as being anticipated by Walker (US 6513901).

Walker discloses a method of three-dimensional printing (*column 1, lines 13-20*), the method comprising:

dispensing interface material (*FIG. 5, element 52*) from a printing head (*FIG. 5, element 14*) of a three-dimensional printer;

determining weight of the interface material dispensed by one or more nozzles of the printing head (*FIG. 7, steps 68 and 70; column 6, lines 50-67*); and

evaluating the one or more nozzles of the printing head based on the weight of the interface material dispensed (*column 5, lines 5-20 and column 6, lines 29-67: Based on the detected drop weights, the changes/variation in drop volume due to the change of nozzles over time is detected/evaluated*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 68-75, 79-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (JP 411248927A) in view of Walker (US 6513901).

Yamada et al. discloses a method of three-dimensional printing, the method comprising:

dispensing interface material (*FIG. 9, element 99*) from a printing head (*FIG. 3, element 20*) of a three-dimensional printer;

determining weight of the interface material dispensed by one or more nozzles of the printing head and transferring weight data to the controller for analysis or calculate drop-weight data (*Abstract*).

Yamada et al. however does not teach evaluating the one or more nozzles of the printing head based on the weight of the interface material dispensed by comparing the weight of said measuring block against a reference weight value or another measuring block.

Walker discloses a three-dimensional printing apparatus including a printhead comprising one or more nozzles for ejecting ink material, wherein the weight of the ejected ink material for a nozzle is measured and compared with a reference weight in order (*FIG. 7*) to evaluate the nozzle accordingly (*FIG. 7; column 5, lines 5-20 and column 6, lines 29-67: Based on the detected drop weights, the changes/variation in drop volume due to the change of nozzles over time is detected/evaluated*).

Therefore, it would have been obvious for one having ordinary skill in the art at the time invention was made to modify Yamada's printing apparatus to include evaluating the nozzles based on the weight of the ejected material to obtain accurate drop weights for providing to the printer controller to compensate for the change in drop volume over time in order to obtain higher quality output images as taught by Walker (*column 6, lines 57-62*).

- **Yamada et al. also discloses the following claimed invention:**

Regarding to claims 69-70, 80-82: forming a measuring block of said interface material and measuring the weight of the measuring block, weighing said measuring block using one or more of a container, a load cell and a weight scale or scales (*Abstract and FIG. 9*).

Regarding to claims 73-75, 83-84: comprising modifying a drive voltage applied to at least one of the one or more nozzles to modify drop-volume or drop-weight deposited by the nozzle, comprising modifying one or more jetting parameters and/or properties of the printing head, wherein the one or more jetting parameters and/or properties of the printing head include

jetting head temperature, jetting pulse voltage, nozzle voltage, print head voltage, jetting pulse shape or jetting frequency (*Abstract and FIG. 12*).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LAM S NGUYEN/
Primary Examiner, Art Unit 2853